28 JUL 1970

MEMORANDUM FOR: Chief, Printing Services Division, OL

SUBJECT : Comments on Agency Microform Planning

REFERENCE : Memo dtd 30 Jun 70 to C/PSD/OL fr Chmn/RMB, Subject: Request for Comments on Microform Planning

1. Having read the various papers written on Agency microform planning, it is this writer's opinion that too many of the problems have been lumped together in an attempt to apply a "total systems approach" and that this, in turn, inhibits action on the individual problems. This memorandum attempts to sort out and redefine some of these problems and suggests a course of action.

2. Problems:

a. In reading DD/S memo dated 7 November 1969, subject: Inventory of Microform Systems and Equipment; DD/S Diary Note dated 9 January 1970; and DD/S memo dated 15 January 1970, subject: Records Storage--Microfilm Program, it is clear that the overriding problem is that of records storage and the crisis

25X1A [redacted] resulting from the accelerated accumulation of the Agency's inactive files. On 7 November 1969, concerned with the storage problem, the DD/S said, "....I propose to determine the feasibility of converting large volumes of records material to some type of microform." In the Diary Note of 9 January, he speaks of "....the massive creation of records in the Agency...." and "....the promotion of a microfilm program for Records Storage." On 15 January 1970, he speaks of "....developing a system for the microfilming of Agency records to be stored at the Records Center."

b. A stated requirement of such a system would be uniformity both in the production of the microforms and in the indexing to permit the use of common equipment, such as readers, and to permit cross use and servicing of records between Agency components.

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c. Other related problems which are of a longer-range nature are now under discussion, such as:

(1) The Agency's overall approach to the use of microforms (see Attachments 3 and 4);

(2) The feasibility of standardization in the Agency's ongoing microform systems for active records; and

(3) The need for central management.

3. Background:

a. The immediate problem of records storage is concerned only with inactive files--those already [redacted] -and those sched 25X1A uled for retirement. An inactive file, by definition, is a closed file in which interfiling of new material has ceased and which has a diminishing rate of recall of documents. Such a file must be readily accessible, but its low activity rate does not justify its inclusion in an automated storage and retrieval system. For the same reason this file, if converted to microfilm, would not warrant the use of unitized microforms such as aperture cards or microfiche. Thus, roll microfilm seems to be the logical choice for inactive files (if they must be filmed) and it is also the least expensive. If the flow of hard copy inactive files to [redacted] 25X1A stopped by conversion of the files to roll microfilm, the existing 25X1A hard copy holdings [redacted] would be gradually diminished as their destruction date came due, and the storage crisis would then diminish. This "flow" or net growth is estimated at 6,000 cubic feet or 12 million pages per year. However, there is a great reluctance to take this course of action because of numerous objections posed by the various Directorates, as follows:

(1) Microfilming solely for the purpose of miniaturization (space saving) is not cost-effective unless the material is to be retained for 30 years (GSA criteria) or possibly 15 years (Agency Records Management Officer criteria). Shelf filing of hard copy is the alternative.

(2) Only when a file is already incorporated into an active microfilm system can it be retired cost-effectively as a microform, since the miniaturization is already accomplished.

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(3) Microfilming of inactive records, if attempted, would be the responsibility of the Directorate of Support alone. To be effective, the job must be done at a central location (Printing Services Division) by a permanent crew of 22 persons. The budget and Table of Organization (T/O) would require substantial increases, and the overall cost would be "horrendous." (Eastman Kodak Company pricing of approximately $142.00 and $39.50 per cubic foot of film for planetary and rotary filming, respectively, is being quoted as a basis for costing.)

(4) Indexing of microfilm files is an almost unsurmountable task; i.e., a "bottomless pit."

(5) Rotary microfilm cameras are not suitable for any portion of the task.

(6) Initiation of microfilming projects of this nature, i.e., inactive files, should await completion of current Agency studies (including use of outside consultants) to insure compatibility and standardization, and to obtain overall policy guidance.

4. Views, Comments and Opinions: In this writer's judgment, many of the above statements for various reasons are not valid and some are the result of a misunderstanding of the DD/S objectives. The following comments are offered for the record in rebuttal.

a. Cost-Effectiveness

The existing criteria for cost-effectiveness are no longer applicable. The Agency's problems regarding records storage are unique. There are many trade-offs to be considered in comparing hard copy vs. microfilm for storage; for example, the recent decision to invest $600,000 to obtain an additional 38,000 cubic feet of shelf space [redacted] which will accom- 25X1A
date only 6 years' accumulation of hard copy files, the existing restriction against further construction of buildings for records storage, and the costs and the security risks involved in the daily transporting of boxes of classified materials to and from

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Headquarters when requested. All of these factors and many others tend to make microfilm storage more attractive for the unique problems of this Agency. Attachment 1 is a cost comparison which indicates that microfilm may indeed be extremely cost-effective.

b. Retirement of Files from Active Microform Systems

It is obvious that the retirement of files already on microforms is the most cost-effective procedure of all. Unfortunately, because of the "state of the art," the application of microfilm systems to the complex and varied active files of the Agency will, in all probability, not occur rapidly enough to overcome the storage problem (by providing records for retirement already on microfilm). Thus, for the foreseeable future, most of the files will still be in hard copy form as they become inactive.

c. Methods and Costs for the Filming of all Newly Inactivated Files

For many years, the microfilming of records has been successfully carried out by the several Agency laboratories and, in addition, by numerous other components using borrowed cameras and clerical personnel, summer help, WAE's, contract employees, etc., with technical and processing support from the Printing Services Division and other laboratories. If the task of microfilming 6,000 cubic feet per year does indeed require the equivalent of 22 man-years, a decentralized approach, with some "on-site" filming adjacent to the files, would permit the use of large numbers of clerical personnel on a part-time basis who were familiar with the individual files and who could absorb much of this work as they have in the past, as a routine clerical task and a temporary inconvenience, without an increase in the staffing. If the offices which create and operate the individual files knew in advance that they, also, would have (with the RMO) mutual responsibility for converting it to microfilm as it became inactive, then greater discipline would probably be exercised in the maintenance of the file. Each of the laboratories should also be utilized to its fullest extent by scheduling the filming of files on a monthly quota basis. Thus, the concept of having

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DD/S accept the entire burden, film in a central location and create a separate operation with 22 persons does not appear to be desirable if the "horrendous" costs are to be avoided. Attachment 2 describes a plan for the microfilming of inactive files with minimum budget and T/O increases.

d. Indexing

This task should be no more difficult for roll microfilm than for indexing of the inactive hard copy files. Microfilm readers equipped with odometers permit indexing of the film to any degree desired. The lookup or access time is less than that of hard copy. The development of standardized, uniform indexing which would permit cross use of the records is a job for which the Records Management Branch is well qualified.

e. Rotary Cameras

These cameras are fully adequate for the recording of inactive files for storage. There are thousands in daily use today. The Agency uses 11 of them with excellent results. With proper operation and maintenance of the camera and with proper film processing, the film quality is completely acceptable. Provisions for manual and automatic exposure control are available. The camera will not accept hardback copy or oversize documents, and is not used for two-sided documents. For correspondence and card files, however, the production ranges from 6,000 to 60,000 per day.

f. Waiting for Development of Overall Policy Guidance on Microfilm Operations

In this writer's opinion, there is no reason for further delay in dealing with the problem of storage of inactive files. A decentralized filming program using roll microfilm is feasible, and the means are available to begin such a program. Roll microfilm lends itself readily to standardized format and to standardized indexing. The use of roll microfilm for storage of inactive and vital records is a straightforward application which has been successfully used for no

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less than 35 years. Initiation of roll microfilming projects for inactive files would require neither a broad systems study nor an outside consultant, nor would it conflict with current planning and, thus, it would not have to await the solution to the longer-range problems. Retention of this film at Headquarters would eliminate costs of recalling

25X1A [redacted]

5. Recommendations:

a. That a plan be developed and implemented for decentralized microfilming of Headquarters files as they become inactive, using (as far as possible) existing equipment and personnel. Roll microfilm would be used and carefully indexed so as to meet requirements for cross use.

b. That a 3-year phase-over period be established, at the end of which each Directorate will have stopped the flow of inactive hard copy files [redacted] and will have substituted micro- 25X1A film (with the exception of material to be retained X number of years* or less, and other incompatible materials).

c. That a more aggressive program for the development of new, standardized microform systems which more closely meet the needs of the files in the Agency be initiated rather than attempt to apply inadequate commercial and Agency systems currently available (see Attachment 3).

d. That pilot programs using microfiche be encouraged and subsidized in the Agency to gain more understanding and wider user acceptance.

* To be determined after further costing studies, probably 4 to 6 years.

25X1A [redacted]

Chief, Systems Staff, PSD/OL

4 Atts

Attachment 1

COST COMPARISON
INACTIVE FILES

ROLL MICROFILM AT HEADQUARTERS vs. HARD COPY [redacted] 25X1A

1. EXAMPLE FOR COSTING - Net growth of documents to be
25X1A stored [redacted] is 6,000 cubic feet per year for 6 consecutive years and storage for 4 years thereafter (10-year retention).

2. ASSUMPTIONS:

a. Annual microfilming at Headquarters of an estimated 6,000 cubic feet of files becoming inactive could eliminate the current need for new shelving, building renovation, etc., at
25X1A [redacted] the same need 6 years hence.

b. Roll microfilm retained at Headquarters would give a faster retrieval rate and eliminate the file maintenance
25X1A requirement [redacted]

c. Existing readers at Headquarters could be used for retrieval.

d. Six additional GS-3 microphotographers could possibly be required--remaining tasks for microfilm operation to be absorbed by existing personnel.

3. COMPARISON - See chart on page 2.

3. COMPARISON:

ITEM (6-year Basis)	HARD COPY [redacted]	COST	MICROFILM (HQS)	COST
Renovation and Storage	New Shelving (6-year capacity)	$600,000	Storage @ .76 cu. ft. (cumulating growth)	$205,600
TV Installation	For Building Security [redacted]	32,000	0	0
TV Maintenance	$6,000 per year	36,000	0	0
File Preparation	Purging, Indexing, Boxing, Shipping	Roughly Equal, cost undetermined	Purging Index--feed to camera, inspect film	
File Maintenance	$215/cu. ft. per year Growth of 6,000 cu. ft. per year, up to 36,000 cu. ft. 4 years thereafter at 36,000 cu. ft.	580,500	0	0
Filming	0	0	Six additional GS-3's @ $5,200 per year	187,000
Supplies	Boxes @ 12¢	4,320	Film @ $2.88, reels @ 8¢	108,000
Processing	0	0	Automatic--cost absorbed	0
		$1,252,820		$500,600

Since there are so many unknowns in costing out the microfilm (for example, the type of files and type of camera to be used), these figures represent cost differences rather than totals. These figures indicate that microfilming to save storage space is practical in the Agency's unique situation and that a possible savings of $752,220 could be realized over a 6-year period.

ATT 2

Attachment 2

SUGGESTED PLAN FOR DECENTRALIZED MICROFILMING OF INACTIVE FILES

1. RESOURCES:

a. Equipment

(1) There are approximately 27 cameras in the Headquarters area which are suitable for production of roll microfilm from inactive files. Many of them are not fully committed and could be used to absorb some of this workload. PSD, for example, has seven portable planetary cameras which are immediately available for work of this nature. The actual number of planetaries and rotaries required cannot be determined until a schedule is established and the files are examined.

(2) A newly installed high-speed film processor (50 feet/minute) at PSD can accommodate the entire annual requirement of 6,000 rolls with ease. In addition, processors at NPIC and CRS are suitable for emergency backup.

b. Program Administration

The Records Management Officers, with assistance from the Records Management Branch, SSS-DD/S, are now managing the retirement of hard copy files and the filming of vital materials. They are also the logical group to administer and coordinate the program of filming of inactive files.

c. Technical Supervision/Guidance/Assistance/Training

PSD has provided this service for many years to various components including overseas stations. In addition, CRS, RID and NPIC have similar expertise. Some 45 personnel in the Agency are engaged in microfilm operations, in addition to the systems analysts and managerial types.

d. Operating Personnel

For this task the requirement has been estimated at 22 people. This plan suggests that the workload be shared by the 45 microform operating personnel and the approximate 2,000 clerical personnel now maintaining the files from which portions are periodically becoming inactive. On-site procedural training would be necessary for the clerical personnel for the microfilming in some cases.

2. TASKS AND RESPONSIBILITIES: The following is a preliminary outline of the principal tasks required to execute this plan.

Action	Responsibility
a. Establish criteria for filming based on:	RMB with OL/PSD
(1) Retention period;	
(2) Activity rate;	
(3) Suitability for roll microfilm.	
b. Develop and establish standard specifications for microfilm quality and format:	PSD with other labs
(1) Density	
(2) Resolution	
(3) Image reduction	
(4) Image orientation	
(5) Need for duping and printing	
c. Develop and establish overall indexing procedure in accordance with DD/S objectives.	RMB

d. Analysis of individual files to establish:	RMO with PSD assistance
(1) Date of retirement	
(2) Retention period	
(3) Volume of file	
(4) Specific indexing procedures	
(5) Procedures for file preparation and format	
(6) Schedule for filming	
(7) Manpower and equipment required.	
e. Identify operating personnel for the job and equipment. Commence filming.	RMO File custodian, PSD
f. Processing and technical inspection of film.	PSD
g. Film inspection for omitted pages.	Filming team

ATT 3

Attachment 3

MICROFORMS FOR ACTIVE FILES

1. The typical hard copy file in the Agency (if there is such a thing) consists of safes containing miscellaneous correspondence folders in which documents are grouped by subject and into which clerks periodically interfile new material into the folders with Acco fasteners. Typical chrono files are sequential and do not require interfiling. Individual folders are closed out and removed from the file at irregular intervals. These files, according to the Agency Records Management Officer, occupy over 221,000 cubic feet of space in Headquarters, take 2,210 clerks to operate and cost $9.7 million annually. Each year the growth of the files requires 73 additional clerks and costs $300,000.

2. None of the Agency's 58 active microform systems and applications provide an efficient means for dealing with this basic type of records filing. Although millions of dollars have been spent by the Agency in the development of large automated and semiautomated microform storage and retrieval systems for highly specialized applications, such as Minicard, Walnut and the CRS aperture cards, the "typical file" problem remains unsolved. The inability to efficiently interfile individual images (pages) is probably the greatest deterrent to the use of microform systems throughout industry as well as Government.

3. The updatable microjacket system now being used experimentally in RID perhaps comes the closest to meeting the "typical file" requirements. However, while it has definite advantages for micropublishing, it is probably too cumbersome to find wide application for files.

4. The most promising system seen by this writer is a microfiche camera which produces electrostatic images and provides a capability for adding on additional images at a later date. This system, being produced by the Audac Corporation, was described in an Agency briefing and is expected to be announced publicly within a month. Computer output microfilm (COM) devices produce microfiche and add and delete pages with the greatest of ease. The text for these devices, however, must be submitted in machine language. It is highly unlikely that devices such as CompuScan will be able to accurately convert random typewritten documents (or Xerox copies) to magnetic tape for years to come, and microfilming of hard copy will remain the principal means for miniaturization.

5. If the space problem in Headquarters is to be alleviated and the clerical manpower is to be minimized, a far greater effort in research and development must be made to provide a microform substitute for the "typical file."

ATT 4

Attachment 4

SUPPLEMENTAL DISTRIBUTION AND MICROPUBLISHING

1. PSD produces for its customers some 92,000 cubic feet of 25X1A publications annually. [redacted] 20,000 cubic feet of extra copies (called "supplementary distribution") are stored. Micropublishing, using duplicate microfiche as a means of original dissemination of reports, catalogues and maintenance manuals as well as for reprints, is now a widely accepted media in Government as well as in industry. Simultaneous production by PSD of certain Agency publications in fiche as well as in hard copy is technically feasible. Microfiche cameras record at approximately the same speed as a roll film planetary camera. Duplicating on diazo is fast and inexpensive.

2. Microfiche produced directly from magnetic tape on COM devices is coming into greater use. It is used at present as a substitute for hard copy computer printout, of which the CIA generates some 30,000 cubic feet per year.

3. Limitations to the use of microfiche are as follows:

a. Microfilm emulsions produce an excellent image of line work and text but will not satisfactorily record halftone photographs and color (color microfilm has insufficient resolution for maps, etc.). Fold-out maps and illustrations would have to be filmed in sections, and the information provided by the colors would, of course, be lost. Thus, the NIS which comprises perhaps 85 percent of the present "supplementary distribution" holdings [redacted] would not be acceptable on microfiche with the present state of the art. 25X1A

b. Large quantities of microfilm readers are required to make micropublishing practical. However, they are simpler to use and less expensive than roll film readers and prices start at $100. Reports and publications are being supplied to CIA on microfiche from several other Government agencies in increasing numbers, and this will provide additional incentive for the use of microfiche systems and readers in our own Agency.

c. Lack of understanding and familiarity with readers and microforms tend to delay user acceptance of microfiche. "Seeing is believing" and more public relations, demonstrations and seminars are needed for promotion.